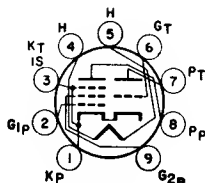


6HG8

Refer to chart at end of section.

**6HG8/
ECF86****7HG8/PCF86****MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE****9MP**

Miniature type with frame-grid pentode unit used as combined oscillator and mixer tubes in vhf color and black-and-white television receivers. Outlines section, 6B; requires miniature 9-contact socket. Type 7HG8/PCF86 is identical with type 6HG8/ECF86 except for slightly higher current and dissipation ratings and for heater ratings.

Heater Voltage (ac/dc)	6HG8/ ECF86	7HG8/ PCF86	volts
Heater Current	6.3	7.2	ampere
Peak Heater-Cathode Voltage	0.34	0.3	volts
	±100 max	±100 max	

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

	Triode Unit	Pentode Unit	
Plate Voltage	125	250	volts
Grid-No.2 (Screen-Grid) Voltage	—	150	volts
Cathode Current	15	18	mA
Plate Dissipation	1.5	2	watts
Grid-No.2 Input	—	0.5	watt

CHARACTERISTICS

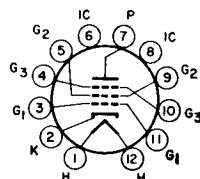
Plate Voltage	100	170	volts
Grid-No.2 Voltage	—	150	volts
Grid-No.1 (Control-Grid) Voltage	—3	—1.2	volts
Amplification Factor	17	—	
Mu-Factor, Grid No.2 to Grid No.1	—	70	
Plate Resistance (Approx.)	—	0.35	megohm
Transconductance	5500	12000	μmhos
Plate Current	14	10	mA
Grid-No.2 Current	—	3.3	mA

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	—	0.25	megohm
For cathode-bias operation	0.5	0.5	megohm

6HJ5**BEAM POWER TUBE**

Duodecar type used as horizontal-deflection amplifier in television receivers. Outlines section, 15C; requires duodecar 12-contact socket.

**12FL**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	2.25	amperes
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts

Class A₁ Amplifier**CHARACTERISTICS**

Plate Voltage	20	40	60	135	volts
Grid-No.2 (Screen-Grid) Voltage	110	110	135	135	volts
Grid No.3	Connected to cathode at socket				
Grid-No.1 (Control-Grid) Voltage	0	0	0	—22	volts

Triode Amplification Factor	—	—	—	4.2	
Plate Resistance (Approx.)	—	—	—	5000	ohms
Transconductance	—	—	—	10000	μmhos
Plate Current	240*	400*	540*	80	mA
Grid-No.2 Current	160*	42*	48*	5.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—	—	—70	volts

* This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	7000	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.3 Voltage	70	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	1000	mA
Average Cathode Current	280	mA
Plate Dissipation†	24	watts
Grid-No.2 Input	6	watts
Grid-No.2 Input (Warm-up Surge)*	12	watts
Bulb Temperature (At hottest point)	240	°C

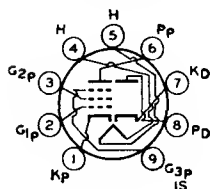
MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
------------------------------	---	--------

Pulse duration must not exceed 16% of a horizontal scanning cycle (10 microseconds).

† A bias resistor or other means is required to protect the tube in absence of excitation.

* Surge not to exceed 16-second duration.



9CY

DIODE— SHARP-CUTOFF PENTODE

6HJ8

Miniature type used as combined video-detector and if-amplifier tube in television receivers. Outlines section, 6B; requires miniature 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.45	ampere
Heater Warm-up Time (Average)	11	seconds
Peak Heater-Cathode Voltage	±200 max	volts
Direct Interelectrode Capacitances:		
Diode Unit:		
Plate to Cathode and Heater	2.4	pF
Cathode to Plate and Heater	3	pF
Pentode Unit:		
Grid No.1 to Plate	0.015 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	7	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	3.2	pF
Diode Plate to Pentode Grid No.1	0.005 max	pF
Diode Cathode to Pentode Plate	0.15 max	pF
Diode Plate to Pentode Plate	0.035 max	pF

Pentode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	3.2	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	0.55	watt
For grid-No.2 voltages between 165 and 330 volts	See curve page 98	

CHARACTERISTICS

Plate Dissipation		
Plate Supply Voltage	125	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	125	volts